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DOES THE **EVIDENCE** REALLY SUPPORT **Human** **Evolution?**

Part 2

Turtle
DESIGN

Upcoming
DEBATE



Does the Evidence REALLY Support Human Evolution? (Part II)



Jeff Miller, Ph.D.

Article In Brief...



Many ardent evolutionists are apparently unaware of the fact that, according to experts, human evolution is not only unsubstantiated, but that the evidence stands against it. While a person has the freedom to continue to believe it, he should realize that he must maintain a blind faith in order to do so.

[EDITORS' NOTE: Part I of this two-part series appeared in the August issue. Part II follows below and continues, without introductory comments, where the first article ended.]

WHAT ABOUT OTHER ALLEGED EVIDENCES OF HUMAN EVOLUTION?

EVEN if the fossil record doesn't support human evolution, what about the other evidences discussed in textbooks?

Vestigial Organs—Erroneous Evidence

"Vestigial" organs are parts of the human body that, in many cases, were once thought by many evolutionists to be virtually useless leftovers from previous species in the human evolutionary ancestry that have yet to be eliminated from the body. In 1895, German anatomist Robert Wiedersheim made a list of 86 organs that he considered "wholly" or at least "in part functionless," which have subsequently

been shown to be useful as more study has been conducted on those organs over the decades.¹ Evolutionary theory long argued that such vestigial organs exist and are proof of evolution (i.e., such organs would be **expected** to exist, if evolution were true), and yet, after well over a century of further investigation since Wiedersheim, **not one** organ on the human body can be argued not to have a legitimate function.

Vestigial organs are still listed among the alleged evidences for human evolution in most textbooks, even though the examples given have, long ago, been shown to be useful components of the human body. For example:

- Wisdom teeth—useful in cultures with a less processed diet²
- Tonsils—useful for fighting off germs³
- Coccyx—serves as a shock absorber and connection point for pelvic muscles⁴

- Appendix—important aspect of immune system, especially when young⁵; also serves "as a reservoir for beneficial gut bacteria"⁶
- Parathyroid—regulates calcium intake⁷
- Hair—useful for protection (from, for example, solar radiation, temperature extremes, and potentially harmful insects)⁸
- Male nipple—a product of embryological development (not evolutionary development) that is equipped with sensitive nervous tissue, it is a useful component of the human reproductive system during intercourse⁹

"Junk" DNA: Vestigial Genes—Erroneous Evidence

As the 20th-century vestigial organ evidence for human evolution has fallen on hard times, many evolutionists have replaced it with a 21st-century version. Evolutionists argue:

[W]hen a trait is no longer used, or becomes reduced, the genes that make it don't instantly disappear from the genome: Evolution stops their action by inactivating them, not snipping them out of the DNA. From this we can make a **prediction**. We expect to find, in the genomes of many species, silenced, or "dead," genes: genes that once were useful but are no longer intact or expressed. In other words, there should be **vestigial genes**.¹⁰

As with the vestigial organ argument, the vestigial gene argument is now falling on hard times as well. Jonathan Wells is a molecular and cell biologist of the Center for Science and Culture at the Discovery Institute in Seattle. In his book, *The Myth of Junk DNA*, he cites several prominent evolutionists who use the "Junk DNA" argument. He responded:

The arguments by Dawkins, Miller, Shermer, Collins, Kitcher, Coyne and Avise rest on the

premise that most non-protein-coding DNA is junk, without any significant biological function. Yet a virtual flood of recent evidence shows that they are mistaken: Much of the DNA they claim to be “junk” actually performs important functions in living cells. The following chapters cite hundreds of scientific articles...that testify to those functions—and those articles are only a small sample of a large and growing body of literature on the subject.¹¹

The evidence for the usefulness of supposed “junk” DNA has continued to pour in over the past decade.¹² Don’t miss the significance of this point: evolutionists predicted that there should be vestigial genes if evolution is true. While **verified** predictions do not necessarily prove a theory, if the predictions are found to be **false** upon examination of the evidence, the theory is falsified (at least, that version of the theory). The evidence for vestigial genes is evaporating, falsifying evolutionary theory yet again.

Human/Chimp Chromosome Fusion—Erroneous Evidence

Humans have 46 chromosomes while apes have 48. However, when we look closely at human chromosomes, chromosome 2 appears to be a hybrid of two different ape chromosomes, suggesting to some the possibility that humans evolved from a common 48-chromosome ancestor with apes. Chromosome 2 is claimed to be due to an “end-to-end” fusion of two small, ape-like chromosomes, forming one human chromosome, allegedly explaining why we have 46 (23 pairs) and apes have 48 (24 pairs). However, geneticists have now discovered that the alleged fusion site is in the incorrect location for it to have occurred and that the DNA sequences between chimps and humans does not match

at the fusion site.¹³ Human-chimp chromosome fusion did not occur.

Human-Chimp DNA Similarities—Inadequate Evidence

Evolutionists have long argued that humans and chimpanzees have DNA sequences that are 98-99% identical, supposedly suggesting our close evolutionary relationship. However, Jonathan Marks, evolutionary anthropologist, geneticist, and professor at the University of North Carolina at Charlotte, warns evolutionists about the dangers of misinterpreting the genetic evidence and reading too much into the DNA similarities between chimps and humans. In his book, *What it Means to Be 98% Chimpanzee*, he discusses the misleading tendency to compare long chains of genetic subunits in DNA. He explains that

*Similarities in DNA
are indicative of a
common Designer, not
a common ancestor.*

“such comparisons of DNA sequence ignore **qualitative** differences, those of kind rather than amount.”¹⁴ In other words, the reported chimp-human DNA comparisons are like comparing two side-by-side lines of people, only counting the order in which men and women appear in the lines, with no consideration for any distinguishing characteristics of those men and women (e.g., whether they are dark skinned, light skinned, tall, short, red-haired, blue-eyed, underweight, overweight, etc.).

He also explains, Because DNA is a linear array of those four bases—A, G, C, and T—only four possibilities exist at any specific point in a DNA sequence. The laws of chance tell

us that **two random sequences from species that have no ancestry in common will match at about one in every four sites**. Thus even two unrelated DNA sequences will be 25 percent identical, not 0 percent identical.¹⁵

In other words, the DNA of a human and any other creature that has DNA (e.g., a daffodil) will be at least 25% identical, even though they share no common ancestry.

Further, geneticists have highlighted the fact that previous human-chimp DNA comparisons have not accounted for unalignable regions of the compared genomes and also fail to account for human DNA contamination that is common in sequencing. Accounting for these issues, the human-chimp DNA similarity is roughly 84%, not 98-99%.¹⁶ Clearly, human-chimp DNA comparisons often are misleading.

That said, certain genetic similarities between humans and chimps should be completely expected given similarities between our body structures, physiologies, biochemistries, intended diets, and habitats. Humans and chimps are both mammals and have similar types of internal organs. We both eat fruits and vegetables, which means our mouths and digestive systems have some similar characteristics. We both have eyes, ears, noses, mouths, and fingers, and get sensory information from these body structures. Thus, there is little doubt that there will be many similarities between human and chimp DNA. However, such similarities are better explained as indicative of a common **Designer**, not common ancestor. Further, such DNA similarities do not consider the most important distinction between humans and chimps: the fact that humans, unlike chimps, have an immortal soul.¹⁷

Mitochondrial DNA and “Eve”— Erroneous Evidence

DNA in humans is stored in the nucleus and mitochondria of a cell. The DNA in a nucleus comes from both the father and the mother, but the DNA in mitochondria is usually passed down only from the mother.¹⁸ As the DNA is copied and passed on, genetic mutations happen.

The first female (Eve) would have had an original DNA sequence. Over time, however, the DNA that was copied and passed on would have gathered more and more mutations. By comparing the variations of mitochondrial DNA that we see in many different nationalities of people, scientists used an estimated mutation rate to make a “molecular clock” to try to trace our genetic lines back in history to a single common ancestor of all of the human nationalities—an ancestor that didn’t have **any** of those variations from mutations.

Beginning in the 1980s, evolutionary scientists argued that they had proven that all humans could trace their genetic ancestry back to a single woman in Africa that lived 180,000-200,000 years ago—a far cry from the Bible’s timeline, but matching the evolutionary time-frame regarding when *homo sapiens* evolved onto the scene.¹⁹ However, in order to estimate when “Eve” lived, evolutionists **estimated** a mutation rate—not using actual data—but using the **assumed** evolutionary timescale. Obviously, using the evolutionary time frame to prove the evolutionary time frame is circular reasoning.

If we instead use the **actual, observed** rate that human mitochondria mutate²⁰ and the actual, average number of mitochondrial mutations there are in humans, we can calculate a more likely estimate for when Eve lived. We find that it was less than 10,000 years ago, just like the Bible implies.²¹

THE PROBLEM IS WORSE THAN THAT

THE idea of a human somehow emerging from a non-human is a tall order, in and of itself. After all, according to the Law of Biogenesis, in nature, life comes only from life **of its kind**. Non-humans don’t give rise to humans—a problem for evolution. But, once again, the problem for evolution is actually much larger than the evolution of a single human.

It’s not merely a **single** human that had to come into existence from a non-human giving birth to or transforming into a human. Neither is it the case that merely **two** human beings had to evolve onto the scene. Rather, at least one male **and** one distinctly different human being—the female, equipped with a significantly different anatomy—had to evolve **simultaneously** on the Earth in order for the human species to propagate itself. In other words, one male human could not have randomly come into existence one day, and a female two hundred years later. No, there had to be representatives of both genders on the Earth **simultaneously**, doubling the impossibility of the event. Notable is the fact that evolutionists argue for the necessity of an even larger initial pool of humans—compounding the problem even more.

Further, those male and female human bodies had to also contain the fully functional reproductive components that would be necessary to replicate humanity. And even further, those male and female human beings had to find each other on planet Earth—a sphere with a surface area of 196,900,000 square miles. They had to find each other in what is thought to have been a very hostile and primitive earthly environment as well—without first starving or being eaten by the ferocious animals that evolutionary images of early man portray.

They had to find each other while they were in the childbearing years, as well—not too old or young to reproduce before the other individual died. Assuming the two were able to find each other at the right time (and were **willing** and able to reproduce with each other), mother and child then had to survive the ordeal of childbirth in those allegedly primitive circumstances—a time and situation when, most certainly, miscarriage would be highly likely.

Running into any one of these significant barriers to success would have killed off humans before we got started. If the accidental emergence of a **single** human being from a non-human being seems untenable to you, surely the other requirements necessary to make the species continue reveals the evolutionary proposition to be **beyond** implausible. Simply put, human evolution would require a **miracle**.

ENDNOTES

- ¹ Cf. Jeff Miller (2022), “More Evidence that the ‘Junk’ DNA Argument is Junk,” *Reason & Revelation*, 42[2]:14-15, February, <https://apologeticspress.org/wp-content/uploads/2022/02/2202-web.pdf>. As discussed therein, note that even if there were examples of organs which do not have a function today, it is possible that the pre-Flood world was so different from the post-Flood world that some features of the human body or genome do not function in the way they were originally designed to function due to an environment change. In other words, some aspects of the human body may be corrupted remnants of original humans, not evolutionary ancestors. Also, some alleged vestigial organs are thought to have a diminished or changed, rather than non-existent, function. If they have a function at all, however, regardless of how important those functions may seem to scientists today, they are not evidence of poor design or pointless, evolutionary leftovers. The existence of organs that are apparently not as important/essential in function today compared to other organs does not prove that

- those organs were once more functional than they are now. They may have always had the same functionality they do today. For example, while a “pinkie” finger may not be as “useful” or essential as a heart (or index finger), that does not mean that the pinkie is unimportant or proof of diminished function. Does the fact that carpet in the floorboard of a car is not as useful/important as a car motor mean that floorboard carpet has a diminished function compared to an alleged evolutionary ancestor of that car model? Or, rather, is floorboard carpet evidence that engineers include non-essential components in their designs that are still useful for other purposes (e.g., aesthetics, comfort, convenience, etc.)?
- 2 V. Lombardi (1992), “The Adaptive Valve of Dental Crowding: A Consideration of the Biological Basis of Malocclusion,” *American Journal of Orthodontics*, [81]:38-42; Cf. Jerry Bergman (2000), “Do Any Vestigial Organs Exist in Humans?” Answers in Genesis, <https://answersingenesis.org/human-body/vestigial-organs/do-any-vestigial-organs-exist-in-humans/>; David Menton (2014), “Vestigial Organs—Evidence for Evolution?” Answers in Genesis, <https://answersingenesis.org/human-body/vestigial-organs/vestigial-organs-evidence-for-evolution/>; “Wisdom Teeth” (2019), Healthline.com, Accessed 4/6/23, <https://www.healthline.com/health/why-do-we-have-wisdom-teeth>.
 - 3 Bergman; “Tonsils” (2022), Cleveland Clinic, Accessed 4/6/23, <https://my.clevelandclinic.org/health/body/23459-tonsils>.
 - 4 Eric Lyons (2008), “Leftovers...Again!” Apologetics Press, <https://apologeticspress.org/leftovers-again-2500/>; Menton; “Coccyx” (2018), Healthline.com, Accessed 4/6/23, <https://www.healthline.com/human-body-maps/coccyx#1>.
 - 5 Warwick Glover (1988), “The Human Vermiform Appendix: A General Surgeon’s Reflections,” *Journal of Creation*, 3[1]:34-35; “Appendicitis” (n.d.), Johns Hopkins Medicine on-line, Accessed 4/6/23, <https://www.hopkinsmedicine.org/health/conditions-and-diseases/appendicitis>.
 - 6 Midwestern University (2017), “Appendix May Have Important Function, New Research Suggests,” *ScienceDaily*, January 9, <https://www.sciencedaily.com/releases/2017/01/170109162333.htm>.
 - 7 “The Parathyroid Glands” (n.d.), Johns Hopkins Medicine on-line, Accessed 4/6/23, <https://www.hopkinsmedicine.org/health/conditions-and-diseases/the-parathyroid-glands>.
 - 8 Menton.
 - 9 Ibid; Jerry Bergman (2001), “Is the Human Male Nipple Vestigial?” *Journal of Creation*, 15[2]:38-41, August, <http://creation.com/is-the-human-male-nipple-vestigial#txtRef4>.
 - 10 Jerry A. Coyne (2009), *Why Evolution is True* (New York: Viking), pp. 66-67.
 - 11 Jonathan Wells (2011), *The Myth of Junk DNA* (Seattle, WA: Discovery Institute in Seattle), Kindle file, Chapter 2.
 - 12 Cf. Miller, 2022.
 - 13 Jeffrey P. Tomkins (2020), “Human Chromosome 2 Fusion Never Happened,” *Acts & Facts*, 49[5], <https://www.icr.org/article/human-chromosome-2-fusion-never-happened>.
 - 14 Jonathan Marks (2002), *What it Means to Be 98% Chimpanzee* (Los Angeles, CA: University of California Press), pp. 25-27.
 - 15 Jonathan Marks (2000), “98% Alike? (What Similarity to Apes Tells Us About Our Understanding of Genetics),” *The Chronicle of Higher Education*, May 12, p. B-7, emp. added.
 - 16 Jeffrey P. Tomkins (2018), “Comparison of 18,000 De Novo Assembled Chimpanzee Contigs to the Human Genome Yields Average BLASTN Alignment Identities of 84%,” *Answers Research Journal*, 11:205-209, <https://answersresearchjournal.org/comparison-chimp-contigs-human-genome/>.
 - 17 A truth to which both science and Scripture testify. Cf. Eric Lyons and AP Staff (2002), “In the ‘Image and Likeness of God,’” *Reason & Revelation*, 22[3]:17-23, <https://apologeticspress.org/wp-content/uploads/2021/08/0203.pdf>; Bert Thompson and Brad Harrub (2004), “The Origin of Consciousness [Part 1],” *Reason & Revelation*, 24[4]:25-39.
 - 18 Although there are rare occasions where a father contributes Mitochondrial DNA as well [cf. Anna Asvolski (2018), “Fathers Can Pass Mitochondrial DNA to Children,” *The Scientist*, <https://www.the-scientist.com/news-opinion/fathers-can-pass-mitochondrial-dna-to-children-65165>; Brad Harrub and Bert Thompson (2003), *The Truth About Human Origins* (Montgomery, AL: Apologetics Press), pp. 116-120], adding further uncertainty to evolutionary claims about mitochondrial DNA.
 - 19 Note that evolutionists argue the genus *Homo* evolved onto the scene two-to-three million years ago (i.e., *Homo habilis*). *Homo sapiens*, however, did not arrive until 180,000-200,000 years ago, according to the evolutionary timeline.
 - 20 And assume the rate has been constant. It may have been faster immediately after the Flood, however, which would **decrease** the timespan between when Eve lived and today, causing it to fit with Scripture even better.
 - 21 Nathaniel T. Jeanson and Jeffrey P. Tomkins (2018), “Genetics Confirms the Recent, Supernatural Creation of Adam and Eve,” Answers in Genesis, <https://answersingenesis.org/adam-and-eve/genetics-confirms-recent-supernatural-creation-adam-and-eve/>.

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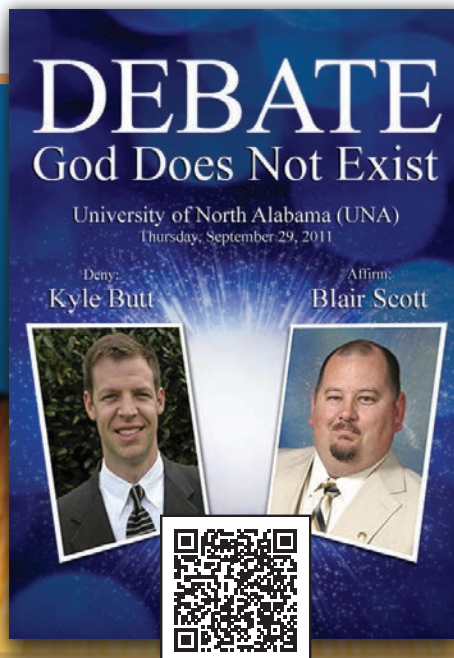
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Kyle Butt is the author or co-author of more than 40 books and numerous video presentations dealing with Christian evidence topics such as the existence of God, the inspiration of the Bible, and the Deity of Christ. He graduated from Freed-Hardeman University with a BA and a double major in Bible and Communications, a Master's of Arts in New Testament studies, and a Master of Divinity with a concentration in Apologetics. He has been in 3 moderated debates with atheists on university campuses defending the existence of God. For the past 23 years, he has worked as a Christian apologist in the Bible Department at Apologetics Press. Kyle's most popular books include *A Christian's Guide to Refuting Modern Atheism*, *Is the Bible God's Word?*, and *Always Be Ready*. Among Kyle's most watched videos include *9 Discoveries That Confirm the Bible*, with nearly 3 million views.



Dr. Michael Shermer is the Founding Publisher of *Skeptic* magazine, the host of the podcast "The Michael Shermer Show," and a Presidential Fellow at Chapman University where he teaches Skepticism 101. For 18 years he was a monthly columnist for *Scientific American*. He writes a weekly Substack column. He is the author of *New York Times* bestsellers *Why People Believe Weird Things* and *The Believing Brain*, *The Science of Good and Evil*, *The Moral Arc*, *Heavens on Earth*, and *Giving the Devil His Due: Reflections of a Scientific Humanist*. Dr. Shermer received his B.A. in psychology from Pepperdine University, M.A. in experimental psychology from California State University, Fullerton, and his Ph.D. in the history of science from Claremont Graduate University. He has been a college professor since 1979, teaching at Occidental College, Glendale College, and Claremont Graduate University, where he taught a transdisciplinary course for Ph.D. students on Evolution, Economics, and the Brain.

Decisive Evidence of Design in Turtles

Abby Mitchell, M.S.

Article In Brief...

Though many scientists argue that all animals are the result of random, mindless evolution over millions of years, turtles are yet another decisive evidence of intentional design that defies evolution and provides proof of a Designer.

[EDITORS' NOTE: Abby Mitchell holds a B.S. in Environmental Science from Freed-Hardeman University as well as an M.S. in Biology from the University of West Florida. As a previous intern for Apologetics Press, we asked her to write an article discussing some of the evidences of design she observed in her graduate studies on turtles.]

THE plethora of diversity in nature is astonishing, and it is also eye-opening how each special characteristic demonstrates God's creativity and power. We get a glimpse of God's unique designs when we undertake the study of turtles, categorized under class *Reptilia* (where snakes, crocodiles, and lizards are found) in the order *Testudines*. Within that order, there are three basic divisions: sea turtles, tortoises, and freshwater turtles.

Sea turtles are found exclusively in the ocean and can be characterized by their large, front, paddle-like

limbs and enormous size—ranging from 3 to 9.5 feet, depending on the species. (There are only seven different species alive today.) Despite their low numbers, no reptile receives quite as much attention and affection as do sea turtles. Perhaps a part of their popularity stems from their beautiful shell patterns, gentle nature, or even the inspirational journey the babies take from hatchlings to full-sized adults.

Tortoises can't claim quite the fanbase as sea turtles, possibly in part due to their rugged, tank-like appearance. They are generally unable to swim but instead live fully on land with stumpy, elephant-like feet and a high dome-shaped shell to help protect them from predators.

Freshwater turtles, on the other hand, are the smallest group on average—reaching the size of a large dinner plate at most. They spend the majority of their lives in or close to freshwater, whether that

be in seasonal ponds and creeks or lakes and rivers.

There is an incredible abundance of diverse traits to explore among turtles, even in such a seemingly small order of God's creatures. By looking at how their traits and abilities are crafted specifically for how they breathe in water, for surviving in their specific environment, and especially in ways that remain mysterious to scientists even today, it is easy to see that turtles could only be fashioned by the hand of God.

BREATHING MECHANISMS: PROOF OF DESIGN

Both sea turtles and freshwater turtles are air-breathers yet live in and around water their whole lives. As a result, they exhibit diverse adaptations¹ to help them thrive in this environment. Just like marine mammals, sea turtles breathe air using lungs and yet spend almost their entire lives in the water. In order to survive in an aquatic environment, sea turtles have lungs that are "subdivided to a degree much greater than any other reptile, and the enhanced surface area results in a lung oxygen diffusivity that approaches that of the mammal."² While evolutionists consider this to be an example of "convergent evolution," we can appreciate the evidence of God's consistency in design. This lung feature is a trait sea turtles share with marine mammals; how-





ever, at least one aspect of their oxygen control sets them apart from marine mammals. Unlike marine mammals, the amount of time they spend in a dive is not restricted by the brain's oxygen supply. Rather, "the brain is able to function in the complete absence of oxygen allowing the turtle to endure long periods of total anoxia [lack of oxygen—AM]."³ This trait provides sea turtles with more control over their breathing without the potential of losing consciousness. By allowing air to exit their lungs as needed, sea turtles can control their descent in water.

Freshwater turtles, on the other hand, have a different adaptation for staying underwater for long periods of time: the ability to "breathe" under water without any need of their lungs. Research has found that there are three main ways turtles absorb oxygen from water: their skin, their mouths, and their intestinal opening at the end of the digestive tract called the cloaca. The cloaca accounts for almost 50% of the oxygen that turtles absorb from water.⁴ This opening is lined with skin formations that increase its surface area and are filled with blood vessels to absorb as much oxygen as possible. By contracting the muscles of the cloaca in a rhythmic way, oxy-

gen-filled water continually flows over the skin, enabling oxygen to be absorbed. Although the ability may seem odd to us, this specialized design allows freshwater turtles to remain fully submerged in water for a very extended period of time. Such a unique, pre-planned design could only come from an all-knowing Designer.

SPECIALIZED ADAPTATIONS: PROOF OF DESIGN

Turtles are found on every continent except Antarctica, as well as every ocean on the planet, meaning they have a wide range of adaptations to accommodate the varying climates they inhabit. Sea turtles, being confined to the deep oceans for their entire lives except for laying eggs, must be able to sense their surroundings even while underwater. Most air-breathing animals that live in the water such as blue whales or sea lions, have what is called a nasal plug that seals off the nose to keep water out when diving. Sea turtles, on the other hand, have no visible nasal plug, but rather water freely enters the nasal cavity in order to allow sea turtles to sense—we could say "smell"—chemicals around them. Their nasal cavity "significantly differs from those of other

animals, including terrestrial and semi-aquatic turtles."⁵ While most reptiles have separate chemical sensing organs from their nasal cavities, sea turtles have sensory organs inside the nasal cavity. Due to the shape and structure of the nasal cavity, water cannot flow all the way through it but still enters far enough for "smelling." This special design allows them to sense the world around them while keeping seawater from entering their lungs in a way that is specialized and unique to sea turtles.

Tortoises also have specialized functions tailored to their environment. They are mainly found in desert and arid environments, which means plants—their primary source of food—are sporadic and often extremely fibrous. While this would spell disaster for most digestive systems, tortoises are able to gain a large concentration of nutrients from the food they digest due to their specially designed "hind-gut"—the latter half of the digestive tract—that holds food for digestion over extended periods of time, up to 49 days.⁶ Their guts are also occupied by specialized bacteria capable of breaking down highly fibrous food.⁷ This feature is one of the reasons tortoises are so long-lived, as their metabolism is extremely slow but consistent throughout their lives.⁸

Freshwater turtles—like sea turtles—spend most of their lives in water, mainly leaving water to lay eggs, yet also exhibit adaptations fit specifically for their freshwater habitats. While sea turtles limit their habitats to more tropical climates, freshwater turtles inhabit a much wider climate range. During winter months, adult freshwater turtles of northern species brumate—the reptile form of hibernation—by burrowing into the soil at the bottom of ponds, leaving their shallowly buried nests to fend for themselves

in the freezing temperatures. How do the hatchlings survive? Many of the northern species are specially equipped for overwintering in the freezing topsoil and are what is considered “freeze tolerant,” allowing some hatchlings to survive temperatures down to -4°C for an extended period.⁹ Other species can survive winter as hatchlings by “supercooling.” This term refers to cooling below the freezing point of water without the water forming ice crystals. In this way, these northern freshwater turtle species possess a special design to prevent ice crystals from forming, helping them avoid frostbite and survive freezing temperatures unharmed.¹⁰ In both cases, these baby turtles exhibit an incredible ability to survive in extreme conditions. If evolution were true, how could the first northern freshwater turtles have survived if they were not already equipped with these necessary survival abilities? God is amazing in His foreknowledge, and characteristics such as these show His care for His creation.

MYSTERIOUS COMPLEXITY: PROOF OF DESIGN

Despite advances that have been made in science and studies that have been done on turtles, there are still many mysteries surrounding them by which evolutionists are stumped. One of these traits is the “Rathke’s gland,” which can be found in all freshwater and sea turtles but is absent in tortoises. Rathke’s glands excrete a brown, very foul-smelling liquid. Though scientists are unsure of their function, they are hypothesized to be used for both repelling predators and communicating with other turtles.¹¹ The intriguing fact about this particular gland is that there is “general similarity in the anatomy of the glands among extant species and fossils,” meaning this specialized communication gland has remained seemingly

unchanged for supposed hundreds of millions of years as required by evolutionary thinking.¹² In contrast, it makes more sense to conclude that these animals appeared on Earth much more recently than evolution requires, created by an all-knowing Designer Who left hints of His handiwork all around us.

Another trait still shrouded in mystery is the navigation ability of sea turtles. “The total distances certain green turtles (*Chelonia mydas*) and loggerheads (*Caretta caretta*) traverse over the span of their lifetimes exceed tens of thousands of kilometers.”¹³ These journeys include returning to the beaches where they hatched to lay eggs and small feeding grounds. How is it possible that they can travel such distances without a map? Researchers have found that sea turtles seem to utilize two main methods of navigation. Sea turtles can detect chemical cues in the water, and it is hypothesized that they are able to utilize distinct variations in those chemical cues to help orient themselves to their location. Second, sea turtles have what could be called a “magnetic compass sense” that allows

them to utilize variations in Earth’s geomagnetic field to navigate across the faceless ocean. Even with all the years of research and tagging of sea turtles to monitor their movements, at the end of the day, “how adults navigate across vast expanses of seemingly featureless ocean, however, remains an enduring mystery.”¹⁴

CONCLUSION

The beautiful sea turtles of the ocean inspire awe in many, with nasal cavities unique even among the reptiles, lungs and brains designed for deep dives, and the ability to navigate across the expanse of the ocean without maps. Tortoises were designed like tanks inside and out, with a thick, domed shell and strong legs to carry them on land, and the inner gut designed to digest whatever food the tortoise comes across. Meanwhile, freshwater turtles exhibit some incredible specialized abilities mirroring that of their seawater relatives, able to withstand freezing temperatures and extract oxygen from water around them. Both sea and freshwater turtles are also able to communicate in ways that confound scientists with their highly advanced communication



glands—clearly designed by a Being more intelligent than modern scientists.

God has truly designed an incredible creation filled with mysteries we may never find the answers to, and often the more we explore and learn, the more complex the picture becomes. Isn't it hard to fathom how, according to evolutionists, "[f]rom the Triassic the turtles have come down to present times practically unchanged,"¹⁵ yet we still understand so little about them? Is it reasonable to suggest that such complex, intentional features could emerge by pure **accident** over millions of years? Truly, only an omniscient Designer could have created such complex and specialized designs.

"But now ask the beasts, and they will teach you; and the birds of the air, and they will tell you; or speak to the earth, and it will teach you; and the fish of the sea will explain to you. Who among all these does not know that the hand of the LORD has done this, in whose hand is the life of every living thing, and the breath of all mankind?" (Job 12:7-10).

ENDNOTES

- ¹ By using the term "adaptations," we are not endorsing the Darwinian evolutionary idea that, through adaptation, one form of life can evolve into a completely different kind of life. Rather, we are referring to the heritable genetic variability with which creatures have been designed that allows a narrow limit of offspring varieties, some more suited to various habitats than others (i.e., micro-evolutionary change, not Darwinian macroevolutionary change across phylogenetic boundaries).
- ² M.E. Lutcavage, P.L. Lutz, and H. Baier (1987), "Gas Exchange in the Loggerhead Sea Turtle," *Journal of Experimen-*

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- ³ P.L. Lutz, J.C. LaManna, M.R. Adams, and M. Rosenthal (1980), "Cerebral Resistance To Anoxia in the Marine Turtle," *Respiration Physiology*, 41:241-251; P.L. Lutz, M. Rosenthal, and T. Sick (1985), "Living without Oxygen: Turtle Brain as a Model of Anaerobic Metabolism," *Molecular Physiology*, 8:411-425.
- ⁴ S. FitzGibbon & C. Franklin (2010), "The Importance of the Cloacal Bursae as the Primary Site of Aquatic Respiration in the Freshwater Turtle, *Elseya albagula*," *Australian Zoologist*, 35[2]:276-282.
- ⁵ D. Kondoh, C. Kitayama, & Y.K. Kawai. (2021), "The Nasal Cavity in Sea Turtles: Adaptation to Olfaction and Seawater Flow," *Cell and Tissue Research*, 383:347-352, <https://doi.org/10.1007/s00441-020-03353-z>.
- ⁶ E. Sadeghayobi, et al (2011), "Digesta retention time in the Galápagos tortoise (*Chelonoidis nigra*)," *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*, 160[4]:493-497.
- ⁷ P.S. Barboza (1995), "Digesta Passage and Functional Anatomy of the Digestive Tract in the Desert Tortoise (*Xerobates agassizii*)," *Journal of Comparative Physiology B*, 165:193-202, <https://doi.org/10.1007/BF00260810>.
- ⁸ T.K. Brown, K.A. Nagy, and D.J. Morafka (2005), "Costs of Growth in Tortoises," *Journal of Herpetology*, [https://doi.org/10.1670/0022-39\[1\]:19-23](https://doi.org/10.1670/0022-39[1]:19-23).
- ⁹ J.P. Baker, et al. (2003), "Adaptations to Terrestrial Overwintering of Hatching Northern Map Turtles, *Graphemys geographica*," *Journal of Comparative Physiology B*, 173:643-651, DOI 10.1007/s00360-003-0373-5.
- ¹⁰ Ibid.
- ¹¹ A.M. Bezerra, et al. (2020), "Anatomical, Histological, and Histochemical Analyses of the Scent Glands of the Scorpion Mud Turtle (*Kinosternon scorpioides scorpioides*)," *The Anatomical Record*, 303[5]: 1489-1500.
- ¹² Ibid.
- ¹³ K. Lohman, J. Hester, & C. Lohman (1999), "Long-Distance Navigation in Sea Turtles," *Ethology Ecology & Evolution*, 11:1-23.
- ¹⁴ Ibid.
- ¹⁵ A.S. Romer (1933), *Vertebrate paleontology* (Chicago, IL: The University of Chicago Press), p. 133.



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September 17	Gurley, AL	(256) 776-2695
September 18	Leoma, TN	(931) 851-9181
September 22-24	Batesville, AR	(870) 698-1441

Eric Lyons

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Jeff Miller

September 7-9	Kentucky	(334) 272-8558
September 14-17	Denver, CO	(303) 986-5800



NOTE FROM

The Editor



Upcoming Debate on the Existence of God

On October 25, 2023, at Faulkner University in Montgomery, Alabama, longtime AP Christian apologist Kyle Butt is scheduled to debate one of the most heralded unbelievers in the world, Michael Shermer, on the specific proposition, “The God of the Bible Exists.”

Dr. Shermer is the author of several *New York Times* bestsellers and, for 18 years, was a monthly columnist for *Scientific American*—one of the most popular science magazines in the U.S. In addition, Shermer is the co-founder and editor-in-chief of *Skeptical* magazine, which boasts 50,000 quarterly subscribers. Shermer has also appeared on such shows as *20/20*, *Dateline*, *The Colbert Report*, and *Oprah*. In terms of spreading unbelief and skepticism internationally, it (sadly) may be that only Richard Dawkins and Sam Harris have had more impact than Shermer since the turn of the century.

Debating high-profile skeptics is not new for AP’s Kyle Butt. Previously he has successfully debated Dan Baker (2009), Blair Scott (2011), and Bart Ehrman (2014). Barker and Ehrman were (and still are) two of the more prominent unbelievers in the U.S. On October 25, Butt will have another opportunity to clearly lay out the evidence for a supernatural Creator in prayerful hope that atheists, agnostics, and skeptics with

honest hearts will be open to the Truth and that theists will be further grounded and encouraged in the most fundamental pillar of the Christian faith—the existence of the God of the Bible.

The Butt/Shermer debate will take place less than two miles from Apologetics Press at Faulkner University’s Tine Davis Gymnasium, which seats approximately 1,500. Plans are also in the works for an overflow crowd next to the gym, where the debate will be live-streamed (if necessary). If you choose not to attend in person, you should be able to watch the debate live from the comfort of your home. (We will announce more details next month regarding how to tune in online.) Moreover, the debate will eventually be archived at apologeticspress.org and on YouTube.

In the meantime, Kyle and Apologetics Press would greatly appreciate your prayers. Pray that Kyle will effectively defend the existence of the God of the Bible. Pray that God will be glorified, His people edified, and the lost evangelized. Pray that much good is done in the name of the Lord.

Eric Lyons

See Center Spread
for More Details